

WHAT IS CLAIMED IS:

5        1. A method of manufacturing a roller element bearing comprising an inner ring, an outer ring, and a series of rolling elements, a rolling surface of each rolling element in contact with a raceway surface formed in each of the inner and the outer rings, at least one of the raceway surfaces of the inner and outer rings and the rolling surfaces of the rolling elements being provided with a topography comprising recesses which are generally isolated by lands, the method comprising:

10        forming the recesses by shot peening the at least one of the surfaces; and,  
                  providing the recesses with lubricant.

15        2. The method of claim 1, further comprising forming the recesses to have a maximum diameter of 100 micrometers and a minimum diameter of 14 micrometers.

20        3. The method of claim 1, further comprising forming the recesses such that an average angle  $\alpha$  between a wall of each recess on the at least one surface is less than 5 degrees.

25        4. The method of claim 1, further comprising using glass beads to do the shot peening.

30        5. The method according to claim 4, wherein the diameter of each glass beads is about 200 micrometers.